

AMENDMENTS TO THE CLAIMS

Claims 1-15 (Cancelled)

16. (New) A method for the preparation of a styrene/propylene copolymer comprising:

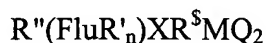
(a) providing a catalyst system comprising a metallocene catalyst component characterized by formula I:



wherein:

Cp comprises a cyclopentadienyl ring; Flu comprises a fluorenyl ring; R'' comprises a structural bridge imparting stereorigidity to the component; each R is the same or different and is an organic group; m is an integer of from 0-4; each R' is the same or different and is an organic group; n is an integer of from 0-8; M is a metal atom from Group 4 of the Periodic Table or is vanadium; and each Q is a hydrocarbon having from 1-20 carbon atoms or is a halogen;

or formula II:



wherein:

R(FluR'_n), R'', M and Q are as defined hereinabove; R^s is hydrogen or a hydrocarbyl group having from 1-20 carbon atoms; and X is a heteroatom from group 15 or 16 of the Periodic Table;

(b) contacting said catalyst system with styrene and propylene under polymerization conditions to produce a styrene/propylene copolymer; and

(c) recovering said styrene/propylene copolymer.

17. (New) The method of claim 16 wherein R^S is a tertiary butyl group.
18. (New) The method of claim 16 wherein said metallocene catalyst component is characterized by formula I and wherein at least one group R is positioned on the cyclopentadienyl such that it is distal to the bridge R", and comprises a bulky group of the formula ZR^*_3 in which Z is an atom from Group 14 of the Periodic Table and each R^* is the same or different and is chosen from a hydrogen or a hydrocarbyl group having from 1-20 carbon atoms.
19. (New) The method of claim 18 wherein the cyclopentadienyl ring of formula I comprises a substituent ZR^*_3 distal to the bridge R" and a substituent $YR^{\#}_3$ proximal to the bridge and non-vicinal to ZR^*_3 , wherein Y is an atom from Group 14 of the Periodic Table, and each $R^{\#}$ is the same or different and is chosen from a hydrogen or a hydrocarbyl group having from 1-7 carbon atoms.
20. (New) The method of claim 19 wherein at least one of Z and Y comprises carbon or silicon.
21. (New) The method of claim 19 wherein the ZR^*_3 is selected from the group consisting of $C(CH_3)_3$, $C(CH_3)_2Ph$, CPh_3 , and $Si(CH_3)_3$.
22. (New) The method of claim 21 wherein $YR^{\#}_3$ comprises a methyl group or a trimethyl silyl group.
23. (New) The method of claim 22 wherein ZR^*_3 comprises $C(CH_3)_3$, $C(CH_3)_2Ph$, CPh_3 , and $Si(CH_3)_3$.

24. (New) The method of claim 16 wherein said metallocene catalyst component is characterized by formula II and wherein X is a heteroatom from Group 15 of the Periodic Table.
25. (New) The method of claim 24 wherein X is N or P.
26. (New) The method of claim 25 wherein R^s is a tertiary butyl group.
27. (New) The method of claim 26 wherein the fluorenyl group of formula II is disubstituted with tertiary butyl groups in the 2 and 7 or 3 and 6 positions of the fluorenyl group.
28. (New) The method of claim 27 wherein said tertiary butyl groups are in the 3 position and the 6 position of said fluorenyl group.
29. (New) The method of claim 16 wherein the fluorenyl group Flu in formula I or formula II is symmetrically substituted with substituents at positions 3 and 6 or positions 2 and 7 of the symmetrically substituted fluorenyl group.
30. (New) The method of claim 29 wherein said fluorenyl group is substituted with substituents at the 3 and 6 positions.
31. (New) The method of claim 30 wherein said fluorenyl group is substituted with tertiary butyl groups.
32. (New) The method of claim 16 wherein said styrene/propylene copolymer has a styrene content within the range of 2-50 wt.%.
33. (New) The method of claim 32 wherein said styrene/propylene copolymer has a styrene content within the range of 5-25 wt.%.